

In the Claims

1. (Original) A compound solution comprising disarranged fibers made of a thermoplastic polymer, and of 1 to 500 nm in the number average single fiber diameter and 60% or more in the sum Pa of single fiber ratios, and a solvent.

2. (Original) A compound solution comprising disarranged fibers made of a thermoplastic polymer, and of 1 to 200 nm in the number average single fiber diameter and 60% or more in the sum Pa of single fiber ratios, and a solvent.

3. (Original) A compound solution, according to claim 1 or 2, wherein the index Pb of extremal coefficient of single fiber diameters expressing the rate of the fibers falling within a range of plus and minus 15 nm from the number average single fiber diameter defined as the median is 50% or more.

4. (Currently Amended) A compound solution, according to ~~any one of~~ claims 1 through 3, wherein the solvent is at least one selected from the group consisting of water, oils and organic solvents.

5. (Currently Amended) A compound solution, according to ~~any one of~~ claims 1 [[through 4]]~~or 2~~, wherein the freeness of the disarranged fibers is 350 or less.

6. (Currently Amended) A compound solution, according to ~~any one of~~ claims 1 through 5, wherein the content of the disarranged fibers is 5 wt% or less.

Claims 7 – 83 (Cancelled)

84. (New) A compound solution, according to claim 1, wherein the disarranged fibers are short fibers with a fiber length of 5 mm or less.

85. (New) A compound solution, according to claim 1, wherein the thermoplastic polymer is at least one selected from the group consisting of polyesters, polyamides, polyolefins,

polyphenylene sulfide, phenol resins, polyacrylonitrile, polyvinyl alcohol, polysulfones, polyurethanes, fluorine-based polymers and their derivatives.

86. (New) A compound solution, according to claim 1, which further contains a dispersing agent.

87. (New) A compound solution, according to claim 86, wherein the content of the dispersing agent is 0.00001 to 20 wt%.

88. (New) A compound solution, according to claim 86, wherein the dispersing agent is at least one selected from the group consisting of nonionic dispersing agents, anionic dispersing agents and cationic dispersing agents.

89. (New) A compound solution, according to claim 88, wherein the zeta potential of the disarranged fibers is in a range from -5 to +5 mV, and the dispersing agent is a nonionic dispersing agent.

90. (New) A compound solution, according to claim 88, wherein the zeta potential of the disarranged fibers is -100 mV to less than -5 mV, and the dispersing agent is an anionic dispersing agent.

91. (New) A compound solution, according to claim 88, wherein the zeta potential of the disarranged fibers is more than +5 mV to 100 mV, and the dispersing agent is a cationic dispersing agent.

92. (New) A compound solution, according to claim 86, wherein the molecular weight of the dispersing agent is 1000 to 50000.

93. (New) An emulsion comprising disarranged fibers made of a thermoplastic polymer, and of 1 to 500 nm in the number average single fiber diameter and 60% or more in the sum Pa of single fiber ratios, and a solvent.

94. (New) An emulsion comprising disarranged fibers made of a thermoplastic polymer, and of 1 to 200 nm in the number average single fiber diameter and 60% or more in the sum Pa of single fiber ratios, and a solvent.

95. (New) An emulsion, according to claim 93 or 94, wherein the index Pb of extremal coefficient of the single fiber diameters expressing the rate of the fibers falling within a range of plus and minus 15 nm from the number average single fiber diameter defined as the median is 50% or more.

96. (New) An emulsion, according to claim 93, wherein the solvent is at least one selected from the group consisting of water, oils and organic solvents.

97. (New) An emulsion, according to claim 93 or 94, wherein the freeness of the disarranged fibers is 350 or less.

98. (New) An emulsion, according to claim 93, wherein the content of the disarranged fibers is 5 wt% or less.

99. (New) An emulsion, according to claim 93, wherein the disarranged fibers are short fibers with a fiber length of 5 mm or less.

100. (New) An emulsion, according to claim 93, wherein the thermoplastic polymer is at least one selected from the group consisting of polyesters, polyamides, polyolefins, polyphenylene sulfide, phenol resins, polyacrylonitrile, polyvinyl alcohol, polysulfones, polyurethanes, fluorine-based polymers and their derivatives.

101. (New) An emulsion, according to claim 93, which further contains a dispersing agent.

102. (New) An emulsion, according to claim 101, wherein the content of the dispersing agent is 0.00001 to 20 wt%.

103. (New) An emulsion, according to claim 101, wherein the dispersing agent is at least one selected from the group consisting of nonionic dispersing agents, anionic dispersing agents and cationic dispersing agents.

104. (New) An emulsion, according to claim 103, wherein the zeta potential of the disarranged fibers is in a range from -5 to +5 mV, and the dispersing agent is a nonionic dispersing agent.

105. (New) An emulsion, according to claim 103, wherein the zeta potential of the disarranged fibers is -100 mV to less than -5 mV, and the dispersing agent is an anionic dispersing agent.

106. (New) An emulsion, according to claim 103, wherein the zeta potential of the disarranged fibers is more than +5 mV to 100 mV, and the dispersing agent is a cationic dispersing agent.

107. (New) An emulsion, according to claim 101, wherein the molecular weight of the dispersing agent is 1000 to 50000.

108. (New) A gel comprising disarranged fibers made of a thermoplastic polymer, and of 1 to 500 nm in the number average single fiber diameter and 60% or more in the sum Pa of single fiber ratios, and a solvent.

109. (New) A gel comprising disarranged fibers made of a thermoplastic polymer, and of 1 to 200 nm in the number average single fiber diameter and 60% or more in the sum Pa of single fiber ratios, and a solvent.

110. (New) A gel, according to claim 108 or 109, wherein the index Pb of extremal coefficient of the single fiber diameters expressing the rate of the fibers falling within a range of plus

and minus 15 nm from the number average single fiber diameter defined as the median is 50% or more.

111. (New) A gel, according to claim 108, wherein the solvent is at least one selected from the group consisting of water, oils and organic solvents.

112. (New) A gel, according to claim 108 or 109, wherein the freeness of the disarranged fibers is 350 or less.

113. (New) A gel, according to claim 108, wherein the content of the disarranged fibers is 5 wt% or less.

114. (New) A gel, according to claim 108, wherein the disarranged fibers are short fibers with a fiber length of 5 mm or less.

115. (New) A gel, according to claim 108, wherein the thermoplastic polymer is at least one selected from the group consisting of polyesters, polyamides, polyolefins, polyphenylene sulfide, phenol resins, polyacrylonitrile, polyvinyl alcohol, polysulfones, polyurethanes, fluorine-based polymers and their derivatives.

116. (New) A gel, according to claim 108, which further contains a dispersing agent.

117. (New) A gel, according to claim 116, wherein the content of the dispersing agent is 0.00001 to 20 wt%.

118. (New) A gel, according to claim 116, wherein the dispersing agent is at least one selected from the group consisting of nonionic dispersing agents, anionic dispersing agents and cationic dispersing agents.

119. (New) A gel, according to claim 118, wherein the zeta potential of the disarranged fibers is in a range from -5 to +5 mV, and the dispersing agent is a nonionic dispersing agent.

120. (New) A gel, according to claim 118, wherein the zeta potential of the disarranged fibers is -100 mV to less than -5 mV, and the dispersing agent is an anionic dispersing agent.

121. (New) A gel, according to claim 118, wherein the zeta potential of the disarranged fibers is more than +5 mV to 100 mV, and the dispersing agent is a cationic dispersing agent.

122. (New) A gel, according to claim 116, wherein the molecular weight of the dispersing agent is 1000 to 50000.

123. (New) A cosmetic comprising the compound solution as set forth in claim 1.

124. (New) A cosmetic comprising the emulsion as set forth in claim 93.

125. (New) A cosmetic comprising the gel as set forth in claim 108.

126. (New) A paint comprising the compound solution as set forth in claim 1.

127. (New) A paint comprising the emulsion as set forth in claim 93.

128. (New) A paint comprising the gel as set forth in claim 108.

129. (New) A method for producing the compound solution as set forth in claim 1, comprising the step of directly beating a fiber aggregate in at least one selected from the group consisting of water, oils and organic solvents.

130. (New) A method for producing the emulsion as set forth in claim 93, comprising the step of directly beating a fiber aggregate in at least one selected from the group consisting of water, oils and organic solvents.

131. (New) A method for producing the gel as set forth in claim 108, comprising the step of directly beating a fiber aggregate in at least one selected from the group consisting of water, oils and organic solvents.

132. (New) A nanofiber synthetic paper comprising disarranged nanofibers made of a thermoplastic polymer, and of 1 to 500 nm in the number average single fiber diameter and 60% or more in the sum Pa of single fiber ratios.

133. (New) A nanofiber synthetic paper comprising disarranged nanofibers made of a thermoplastic polymer, and of 1 to 200 nm in the number average single fiber diameter and 60% or more in the sum Pa of single fiber ratios.

134. (New) A nanofiber synthetic paper, according to claim 132 or 133, wherein the index Pb of extremal coefficient of the single fiber diameters expressing the rate of the fibers falling within a range of plus and minus 15 nm from the number average single fiber diameter defined as the median is 50% or more.

135. (New) A nanofiber synthetic paper, according to claim 132 or 133, wherein the freeness of the disarranged nanofibers is 350 or less.

136. (New) A nanofiber synthetic paper, according to claim 132, which has a weight per unit area of 50 g/m² or less.

137. (New) A nanofiber synthetic paper, according to claim 132, which has a thickness of 10 μm or more.

138. (New) A nanofiber synthetic paper, according to claim 132, which has a density of 0.3 g/cm³ or less.

139. (New) A nanofiber synthetic paper, according to claim 132, which has a number average pore area of 1 μm^2 or less.

140. (New) A nanofiber synthetic paper, according to claim 132 or 133, which has an air permeability of 30 cc/cm²/sec or less.

141. (New) A nanofiber synthetic paper, according to claim 132, wherein the number of holes with a diameter of 50 μm or more passing through from the front side to the reverse side of the synthetic paper is 0 to 1000 holes/cm².

142. (New) A nanofiber synthetic paper, according to claim 132 or 133, which has a surface smoothness of 300 seconds or more.

143. (New) A nanofiber synthetic paper, according to claim 132, wherein the thermoplastic polymer constituting the disarranged nanofibers has a melting point of 165°C or higher.

144. (New) A nanofiber synthetic paper, according to claim 132, wherein the thermoplastic polymer constituting the disarranged nanofibers is at least one selected from the group consisting of polyesters, polyamides, polyolefins, polyphenylene sulfide, phenol resins, polyacrylonitrile, polyvinyl alcohol, polysulfones, polyurethanes, fluorine-based polymers and their derivatives.

145. (New) A nanofiber synthetic paper, according to claim 132, which further contains at least 5 wt% or more of other fibers with a number average single fiber diameter of 1 μm or more.

146. (New) A nanofiber synthetic paper, according to claim 132, which further contains other fibers with a number average single fiber diameter of 1 μm or more, and 3 wt% or less of the disarranged nanofibers.

147. (New) A nanofiber synthetic paper, according to claim 132, wherein the disarranged nanofibers are laminated on a substrate.

148. (New) A nanofiber synthetic paper, according to claim 147, wherein the substrate is selected from a woven fabric, knitted fabric, nonwoven fabric and foam.

149. (New) A compound synthetic paper comprising the nanofiber synthetic paper as set forth in claim 132.

150. (New) A molded synthetic paper comprising the nanofiber synthetic paper as set forth in claim 132.

151. (New) A filter comprising the nanofiber synthetic paper as set forth in claim 132.

152. (New) A separator comprising the nanofiber synthetic paper as set forth in claim 132.

153. (New) An abrasive comprising the nanofiber synthetic paper as set forth in claim 132.

154. (New) A medical product comprising the nanofiber synthetic paper as set forth in claim 132.

155. (New) A circuit board comprising the nanofiber synthetic paper as set forth in claim 132.

156. (New) A method for producing a nanofiber synthetic paper by forming a paper sheet from a dispersion of beaten short nanofibers, characterized in that the paper sheet is formed without using a binder.

157. (New) A method for producing a nanofiber synthetic paper, characterized in that other fibers with a number average single fiber diameter of 1 μm or more are processed to form a paper sheet using disarranged nanofibers as a binder.